REMARKS

This communication is a full and timely response to the aforementioned non-final Office Action dated October 20, 2008. By this communication, claims 1-4, 6, 8, 9 and 52 are amended, and claims 53-64 are added. Claims 5, 7, 50 and 51 are not amended and remain in the application. Thus, claims 1-9 and 50-64 are pending in the application. Claims 1 and 57 are independent.

Reconsideration of the application and withdrawal of the rejections of the claims are respectfully requested in view of the foregoing amendments and the following remarks.

I.   Rejections Under 35 U.S.C. § 112

Claims 1-9 and 50-52 were rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. The Office asserted that the amendments to claim 1 as presented in the September 18, 2008 Amendment permit two different intepretations, as identified in the paragraph spanning pages 4 and 5 of the Office Action.

In an attempt to match the features of claim 1 to the disclosure of the applied reference, the Office employed the second enumerated interpretation (i.e., that the detection algorithm has already been selected, and the identification of another object is based on the condition).

Claim 1 has been amended to obviate this unintended intepretation. In particular, claim 1 recites that the image at the second resolution is processed to identify an object in the image at the second resolution. In addition, claim 1 recites that the detection algorithm is selected from among plural detection algorithms based on a condition associated with the object identif*ied* at the second resolution. The above-emphasized terms are highlighted to illustrate, for the Office's convenience, that the identification of the object in the image at the second resolution is a condition precedent to the selection of the detection algorithm, because the detection algorithm is selected from among the plural detection algorithms based on the object identified at the second resolution.

Therefore, Applicants respectfully submit that claim 1 is definite and particularly points out the subject matter which Applicants regard as the invention of claim 1.

The Office alleged that the terms "the yet another object" and "the third resolution" in claim 52 lack proper antecedent basis. Claim 52 depends from claim 2, which recites the terms "yet another object" (see line 4) and "a third resolution" (see lines 2-3). Therefore, Applicants respectfully submit that all the recited features in claim 52 have proper antecedent basis.

Accordingly, for at least the foregoing reasons, Applicants respectfully request that the indefiniteness rejections of claims 1-9 and 50-52 be withdrawn.

II.   Rejections Under 35 U.S.C. § 101

Claims 1-9 and 50-52 were rejected under 35 U.S.C. § 101 as allegedly being directed to non-statutory subject matter. This rejection is respectfully traversed for at least the following reasons.

Initially, it is noted that the standard provided by the Office on page 5 of the Office Action for determining whether a process recites patent-eligible subject matter is no longer applicable. Specifically, in *In re Bilski*, the Federal Circuit held that the sole test for determining whether a "process" recites patent-eligible subject matter is the machine-or-transformation test. 88 USPQ2d 1385 (Fed. Cir. 2008) (en banc).

In *Bilski*, the en banc Federal Circuit overruled the "useful, concrete and tangible result" test for determining whether a process recites patent-eligible subject matter. *See Bilski*, 88 USPQ2d at 1395. Therefore, Applicants respectfully submit that the Office's reliance on the "useful, concrete and tangible result" test on page 5 of the Office Action is inappropriate.

In *Bilski*, the Federal Circuit held that a "claimed process is surely patent-eligible under § 101 if: (1) it is tied to a particular machine, or (2) it transforms a particular article into a different state or thing." *See Bilski*, 88 USPQ2d at 1391 (emphasis added).

On page 6 of the Office Action, the Office asserted that the transformation of image data is not sufficient to result in a "§ 101 statutory transformation." The Federal Circuit expressly rebutted this assertion in *Bilski*. In particular, the Federal

Circuit reiterated the Court of Customs and Patent Appeals' ("CCPA") holding in *In re Abele*, 214 USPQ 682 (CCPA 1982), in which the CCPA held that the transformation of data representing a physical object constitutes patent-eligible subject matter under 35 U.S.C. § 101. *See Bilski*, 88 USPQ2d at 1397-98.

Claim 1 recites that an image represents a scene, which is a physical and tangible object. Accordingly, data constituting the image is data representing the specific physical objects of the scene. Claim 1 also recites <u>transforming</u> the image at the first resolution to an image at a second resolution. Consequently, data constituting the image representing a physical object is transformed.

Therefore, Applicants respectfully submit that claim 1 satisfies the machine-or-transformation test of *Bilski*, by the transformation of an image representing at least one physical and tangible object.

Independent claim 57 recites a computer-readable recording medium having a computer program recorded thereon that causes a computer to identify objects in an image. Claim 57 recites that the program causes the computer to perform operations similar to the method of claim 1. By reciting the computer-readable recording medium as having a computer program recorded thereon, claim 57 defines structural and functional interrelationships between the computer program and the computer to permit the computer program's functionality to be realized. Therefore, claim 57 recites patentable subject matter under 35 U.S.C. § 101 (see MPEP 2106.01(I)).

Accordingly, for at least the foregoing reasons, Applicants respectfully submit that claims 1 and 57, as well as claims 2-9, 50-56 and 58-64 which depend therefrom, recite patentable subject matter under 35 U.S.C. § 101. Therefore, Applicants respectfully request that the rejections under 35 U.S.C. § 101 be withdrawn.

III.   35 U.S.C. § 102 Rejections

Claims 1-3, 6 and 50-52 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Bonneau et al. (U.S. 6,002,794, hereinafter "Bonneau"). This rejection is respectfully traversed. Furthermore, Applicants respectfully submit that this rejection is inapplicable to new claims 53-64.

In order to properly anticipate a claimed invention under 35 U.S.C. § 102, each and every element of the claim in issue must be found, either expressly described or under the principles of inherency, in a single prior art reference. *See Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); MPEP 2131. Furthermore, it is well-settled that the identical invention must be shown in as complete detail as contained in the claim. *See Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989); MPEP 2131. In addition, it is well-settled that the elements must be arranged in the single prior art reference as required by the claimed invention. *See In re Bond*, 15 USPQ2d 1566 (Fed. Cir. 1990); *Brown v. 3M*, 60 USPQ2d 1375 (Fed. Cir. 2001); MPEP 2131. Accordingly, anticipation under § 102 can be found only if a reference discloses exactly what is claimed. *See Titanium Metals Corp. v. Banner*, 227 USPQ 773 (Fed. Cir. 1985).

Applicants respectfully submit that Bonneau does not disclose or suggest all the recited features of the claimed invention for at least the following reasons.

Claim 1 recites a a method for identifying objects in an image. The method of claim 1 comprises receiving an image with a first resolution, where the image represents a scene. The method of claim 1 comprises transforming the image at the first resolution to an image at a second resolution, where the first resolution being higher than the second resolution.

In addition, the method of claim 1 comprises processing the image at the second resolution to identify an object in the image at the second resolution. The method of claim 1 also comprises selecting a detection algorithm from among plural detection algorithms based on a condition associated with the object identif*ied* at the second resolution.

Furthermore, the method of claim 1 comprises processing the image at the first resolution using the object identified at the second resolution to identify another object in the image at the first resolution according to the selected detection algorithm.

New claim 57 recites a computer-readable recording medium having a computer program that causes a computer to perform operations similar to the receiving, processing, selecting and processing steps of claim 1.

Bonneau discloses an encoding technique for processing an original, unencoded signal that is to be encoded and compressed. With reference to Figure 13, Bonneau discloses that an image 1301 is divided and processed according to three different resolutions (scales). Scale one, which has the highest resolution, corresponds to image 1307. Scale two, which is lower than the resolution at image 1307, corresponds to image 1305. Scale three, which is the lowest resolution, corresponds to image 1303 (see Column 21, lines 29-38). Images 1307, 1305 and 1303 are processed independently at their respective resolutions to perform edge recognition at the various resolutions.

The shape recognition technique illustrated in Figure 13 of Bonneau is utilized in conjunction with the pattern recognition process illustrated in Figure 10. However, the shape recognition technique of processing an image at different scales (resolutions) is performed independent of the pattern recognition technique. In particular, the pattern recognition technique does not involve processing an image at different resolutions, but rather comparing the holder exponent h to determine whether one image obscures a separate and distinct image.

The process of Figure 10 utilizes chain coded blocks to identify the outside edges of separate objects (see Column 18, lines 36-43). Step 1005 of Figure 10 matches image points across various scales using the Holder exponent h from equation (13) to eliminate noise for an object. In step 1007 of Figure 10, Bonneau discloses that an object with a Holder exponent h of a predetermined value is preserved, while image parts having a Holder exponent h less than the predetermined value are not preserved (see Column 20, lines 25-49). Accordingly, Bonneau discloses that an image part with a predetermined Holder exponent value h is compared against a stored image so that only clearly defined edges are preserved.

As illustrated in Figure 13 of Bonneau, an original image 1301 is processed according to three different scales 1-3 corresponding to image 1307 (first scale having the highest resolution), image 1305 (second scale having medium resolution), and image 1303 (third scale having the lowest resolution). The Office asserted that the original image 1301 corresponds to the first image of claim 17, that image 1305

corresponds to the second image of claim 17, and that image 1307 corresponds to the third image of claim 17.

Images 1309, 1311 and 1313 are obtained from images 1303, 1305 and 1307, respectively. Images 1309, 1311 and 1313 consist of a plurality of chain coded blocks for detecting edges of objects within the image, such as eyes, a nose and hair.

In an attempt to arrive at the subject matter of claim 1, the Office asserted that objects 1311, 1317 in Figure 13 of Bonneau correspond to the object identified at the second resolution, as recited in claim 1, and that object 139 in Figure 13 of Bonneau corresponds to the another object identified at the first resolution, as recited in claim 1.

However, in contrast to claim 1, Bonneau does not disclose or suggest that once the objects 1311, 1317 are identified, a detection algorithm is selected from among plural detection algorithms based on a condition associated with the objects 1311, 1317. On the contrary, Bonneau utilizes the same detection algorithm for the processing of the chain coded blocks in image 1303, the processing of the chain coded blocks in image 1305, and the processing of the chain coded blocks in image 1307. In particular, Bonneau discloses that edge detection processing is independently performed for each of images 1303, 1305 and 1307 to determine a Holder exponent h for the blocks in each image, respectively. Bonneau discloses that edges within one or more blocks of image 1311 are then matched with one or more blocks of image 1313, if the respective blocks satisfy a specific threshold for their respective Holder exponent h. In particular, Bonneau discloses that when the edge blocks are chain coded, the blocks which do not contain edges or have a small modulus value are eliminated because only edges over a specified threshold are chain coded (see Column 21, lines 38-42).

Accordingly, Bonneau does not disclose or suggest that once an image (e.g., image 1305) at a second resolution is processed to identify an object (e.g., objects 1311, 1317), that a detection algorithm is selected from among plural detection algorithms based on a condition associated with object(s) 1311, 1317 identified in image 1305 (or objects 1309, 1313, 1315, 1319, for that matter). On the contrary, Bonneau discloses that the same detection algorith, i.e., edge detection processing

based on Holder exponents h, is utilized for processing all the blocks in images 1303, 1305 and 1307.

Furthermore, Bonneau does not disclose or suggest that image 1307 (or images 1303, 1305, for that matter) is processed at the first scale using the object (object(s) 1311, 1317) identified at the second scale to identify another object in the image 1307 according to the selected detection algorithm.

Therefore, Applicants respectfully submit that Bonneau does not disclose or suggest:

(1) selecting a detection algorithm from among plural detection algorithms based on a condition associated with the object identif*ied* at the second resolution; and

(2) processing the image at the first resolution using the object identified at the second resolution to identify another object in the image at the first resolution according to the selected detection algorithm, as recited in claim 1.

Accordingly, for at least the foregoing reasons, Applicants respectfully submit that Bonneau does not disclose or suggest all the recited features of claim 1. New claim 57 recites operations similar to the (1) selecting and (2) processing steps of claim 1. Therefore, Applicants respectfully submit that Bonneau also does not disclose or suggest all the recited features of claim 57.

Therefore, Applicants respectfully submits that claims 1 and 57 are patentable over Bonneau, since Bonneau does not disclose or suggest all the recited features of claims 1 and 57.

IV.   35 U.S.C. § 103(a) Rejections

Dependent claims 4, 5 and 7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bonneau in view of Hsu (U.S. 5,631,970). Further, dependent claims 8 and 9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bonneau in view of Eppler (U.S. 6,084,989).

As demonstrated above, Bonneau does disclose or suggest all the recited features of claims 1 and 57. Namely, Bonneau does not disclose or suggest the (1) selecting and (2) processing according to the selected detection algorithm steps/operations in claims 1 and 57.

Hsu and Eppler each fail to disclose or suggest these features of claims 1 and 57. Consequently, Hsu and Eppler do not cure the deficiencies of Bonneau for failing to disclose or suggest all the recited features of claims 1 and 57.

Therefore, no obvious combination of Bonneau, Hsu and Eppler would result in the subject matter of claim 1, since Bonneau, Hsu and Eppler, either individually or in combination, do not disclose or suggest all the recited features of claim 1.

Dependent claims 2-9, 50-56 and 58-64 recite further distinguishing features over the applied references. The foregoing explanation of the patentability of independent claims 1 and 57 is sufficiently clear such that it is believed that separately arguing the patentability of the dependent claims is unnecessary at this time. However, Applicants reserve the right to do so if it becomes appropriate.

Accordingly, for at least the foregoing reasons, Applicants respectfully submit that claims 1 and 57, as well as claims 2-9, 50-56 and 58-64 and 50-52 which depend therefrom, are patentable over the applied references.

V.   Conclusion

In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is clearly in condition for allowance. Accordingly, Applicants request a favorable examination and consideration of the instant application.

If, after reviewing this Amendment, the Examiner believes there are any issues remaining which must be resolved before the application can be passed to issue, the Examiner is respectfully requested to contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

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